

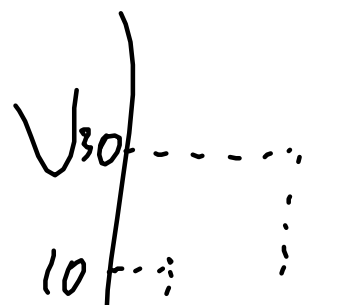
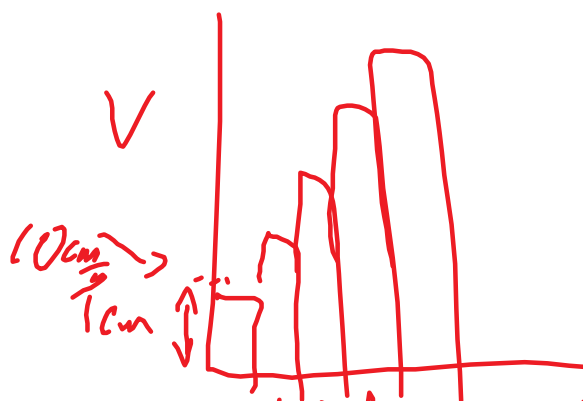
LSFS

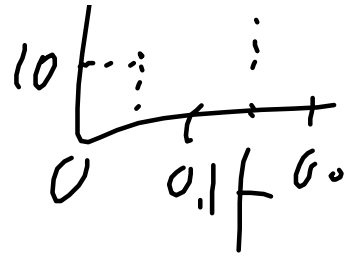
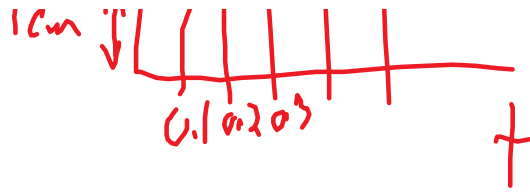


$v = \bigcirc + \bigcirc$

Slope
 $v = \bigcirc +$

$v =$





d	t
0	
1	
4	
9	

✓	10	t
10	1cm	
30	3	
50	5	
70	7	

for Next class

- Lab report -
- Purpose
 - Hypothesis - 4 parts
 - Procedure - don't copy
"refer to Labbook p22"
 - Observation tables
 - units
 - proper sig figs - 2 & 3
 - 4 graphs
 - equation for $d-t^2$

$u \dots$
 $V-t$
- labels, units,

Analysis - answer questions
in lab manual

Conclusion - 4 parts - 1 for each
hypothesis

Sources of uncertainty

p74 - 75 Q17 - 24

p69 CA 1.1 - 1.4

20 minutes - Gravity



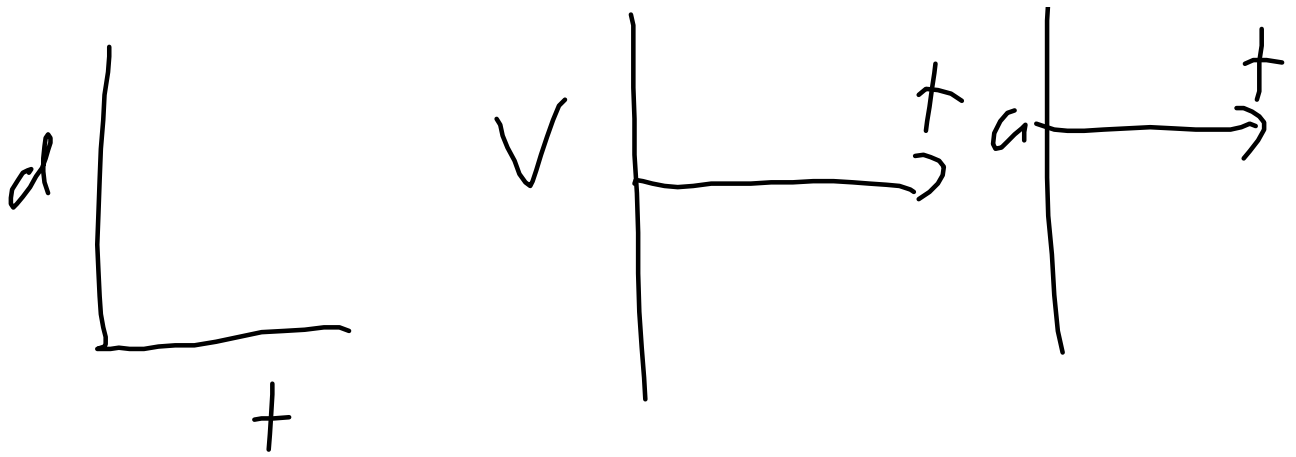
sensor

Demo:

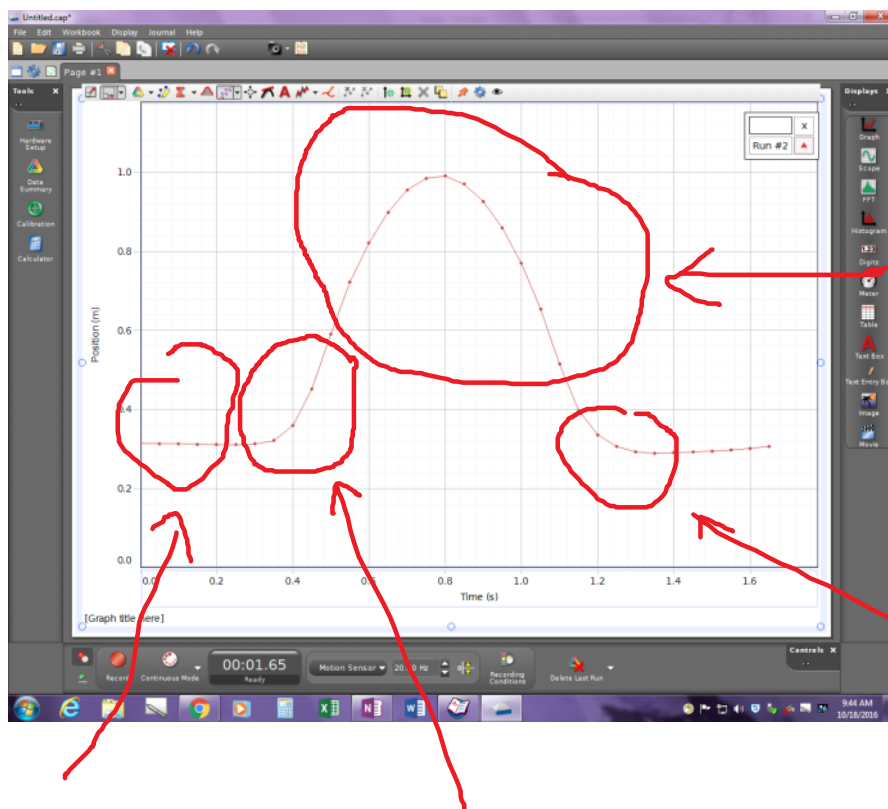
Throw a ball up in the air and observe the position-time data, the velocity-time data and the acceleration-time data.

predict:





position - time



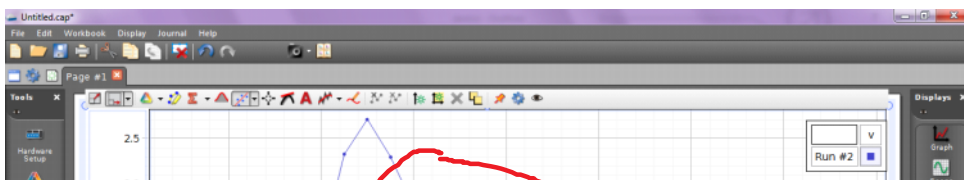
gravity
acts on the
ball
parabola
constant
acceleration

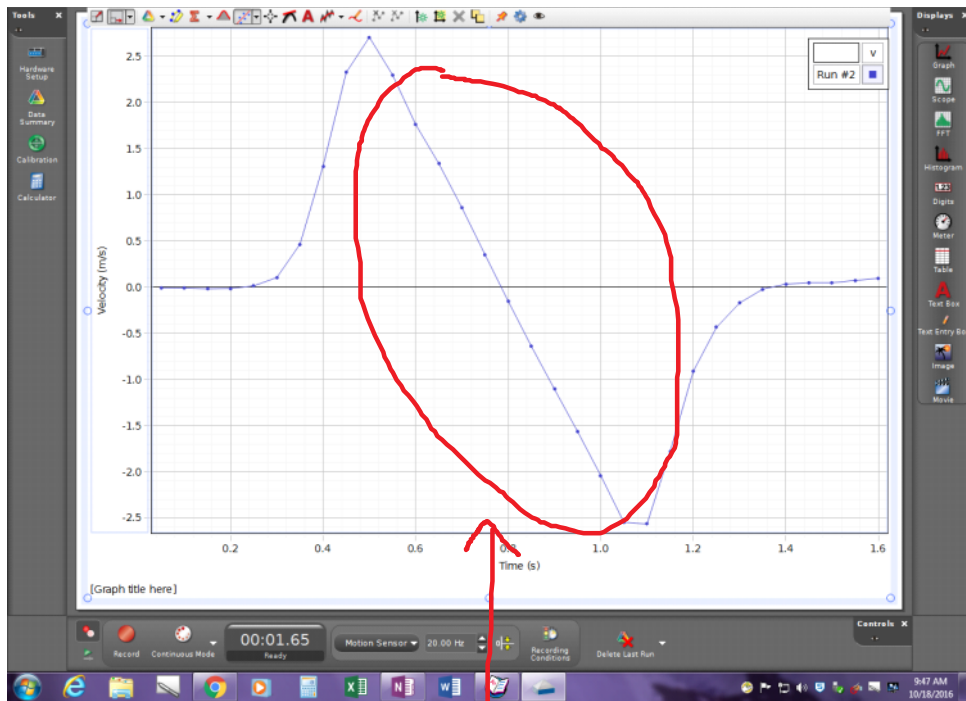
catch

hold the ball

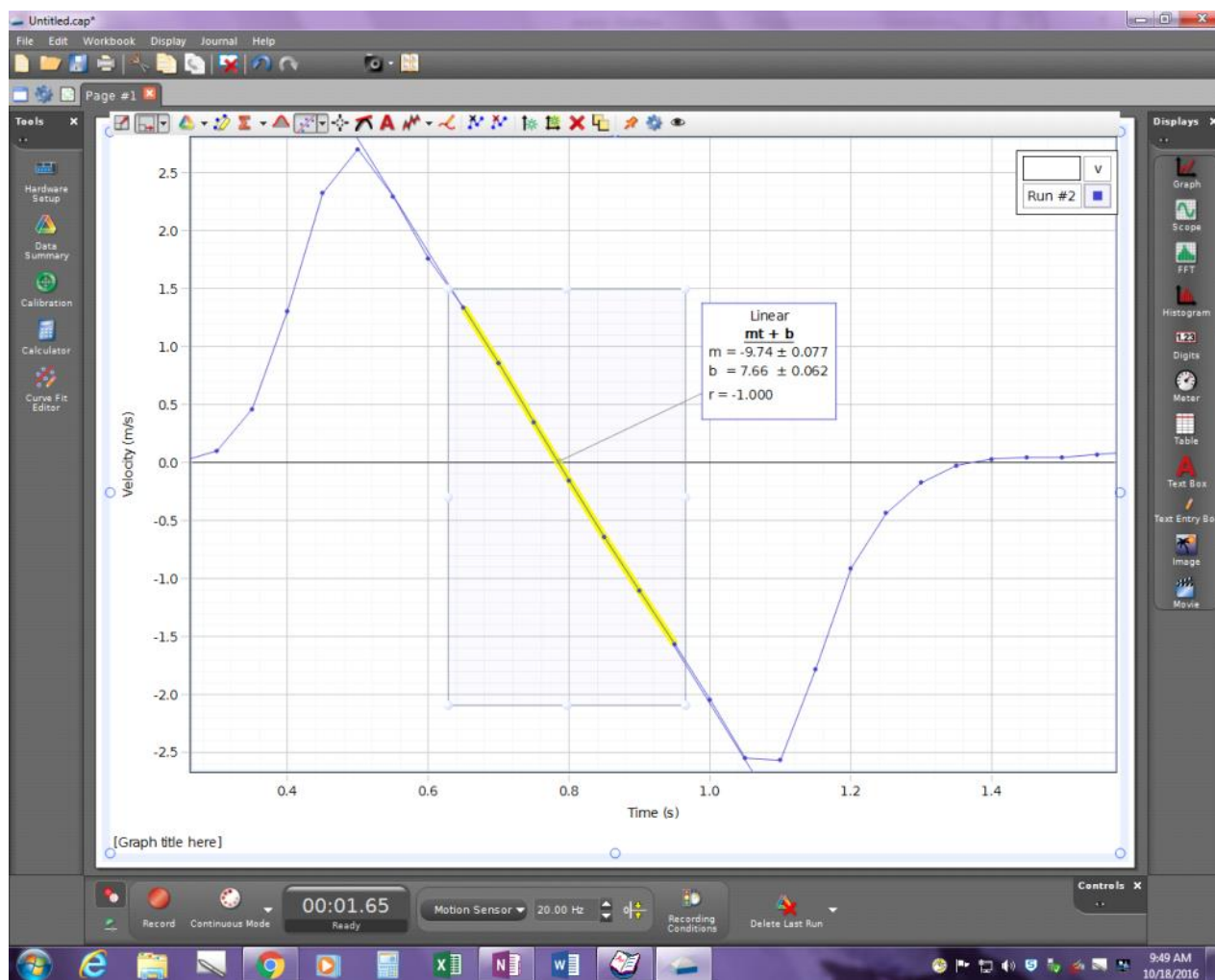
jack is throwing the ball

velocity-time



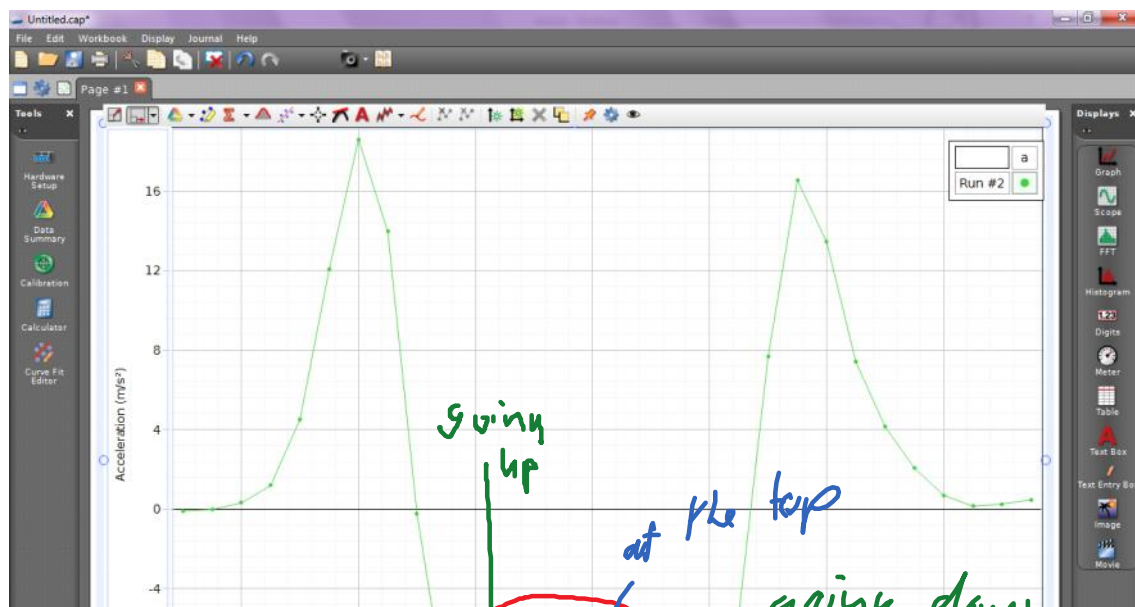


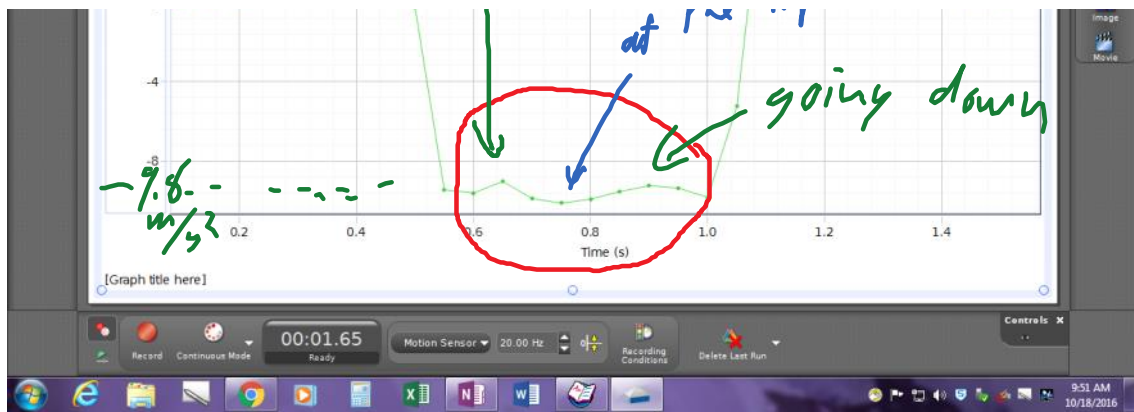
linear with a constant slope
going up, at the top and
going down
acceleration is constant



slope is -9.8 m/s^2 the acceleration due to gravity with negligible air resistance

Acceleration - time graph:





constant acceleration = -9.8 m/s^2 going up, at the top and going down

Homework:

finish lab

p69 CR 1.1-1.4 p74-75 17-24

predict the graphs for a balloon instead of basketball

d-t, v-t, a-t

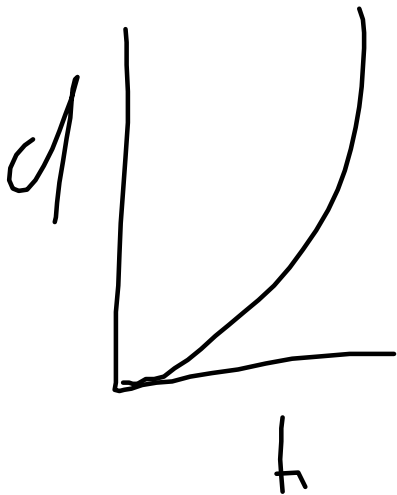
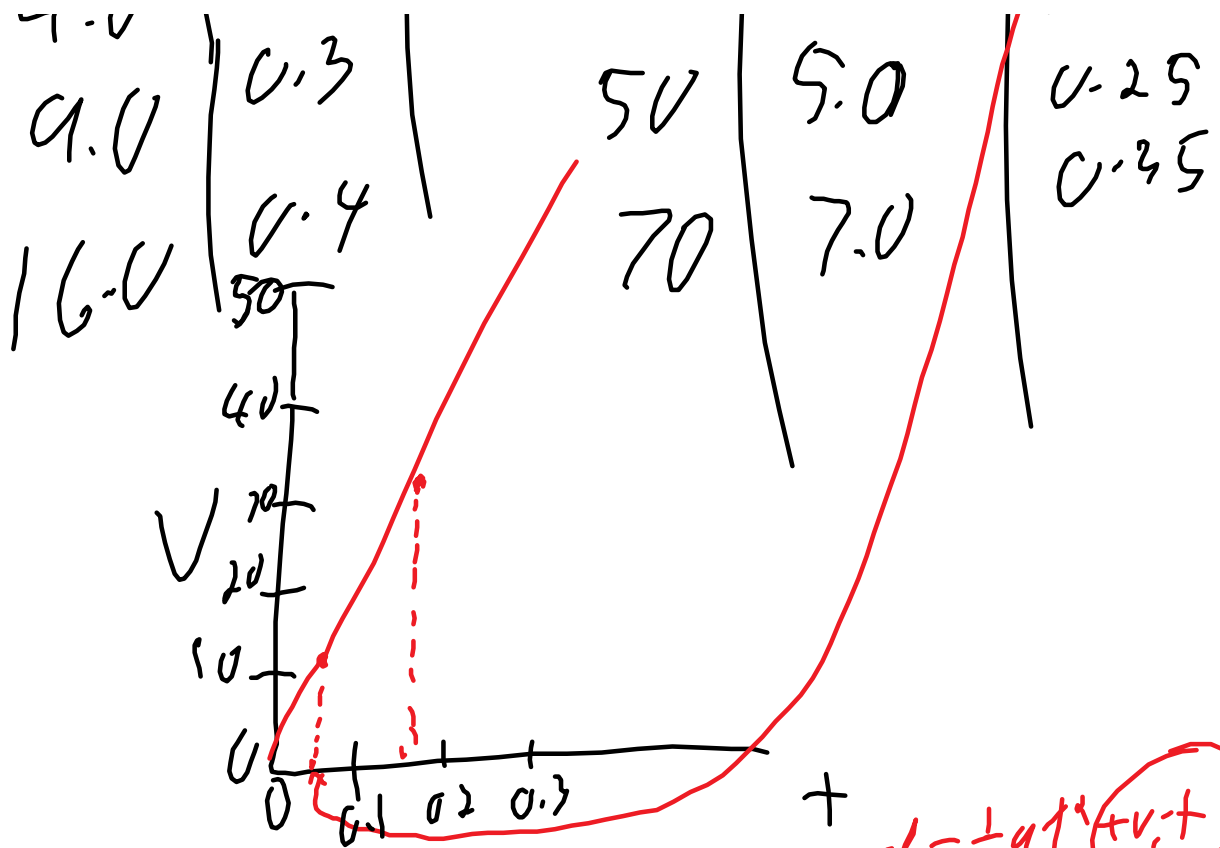
Block 1-2

cart on slope lab graphs

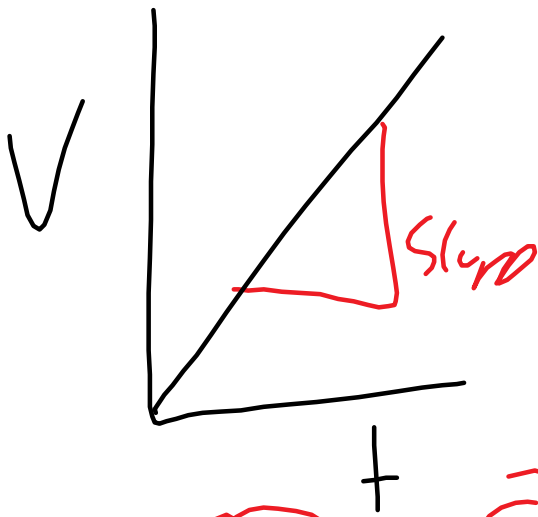
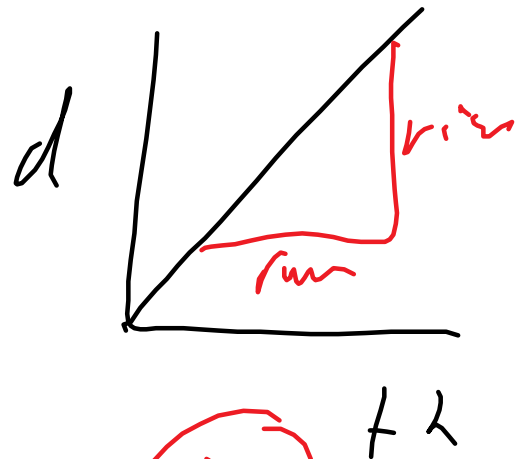
prep for quiz

gravity

$d(\text{m})$	$T(\text{s})$	t^2	v (cm/s)	Δd (cm)	t (s)
0	0	0			
1.0	0.1	0.01	10	1.0	0.05
4.0	0.2	0.04	30	3.0	0.15
9.0	0.3	0.09	50	5.0	0.25



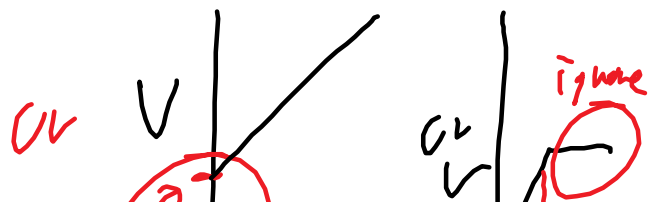
→

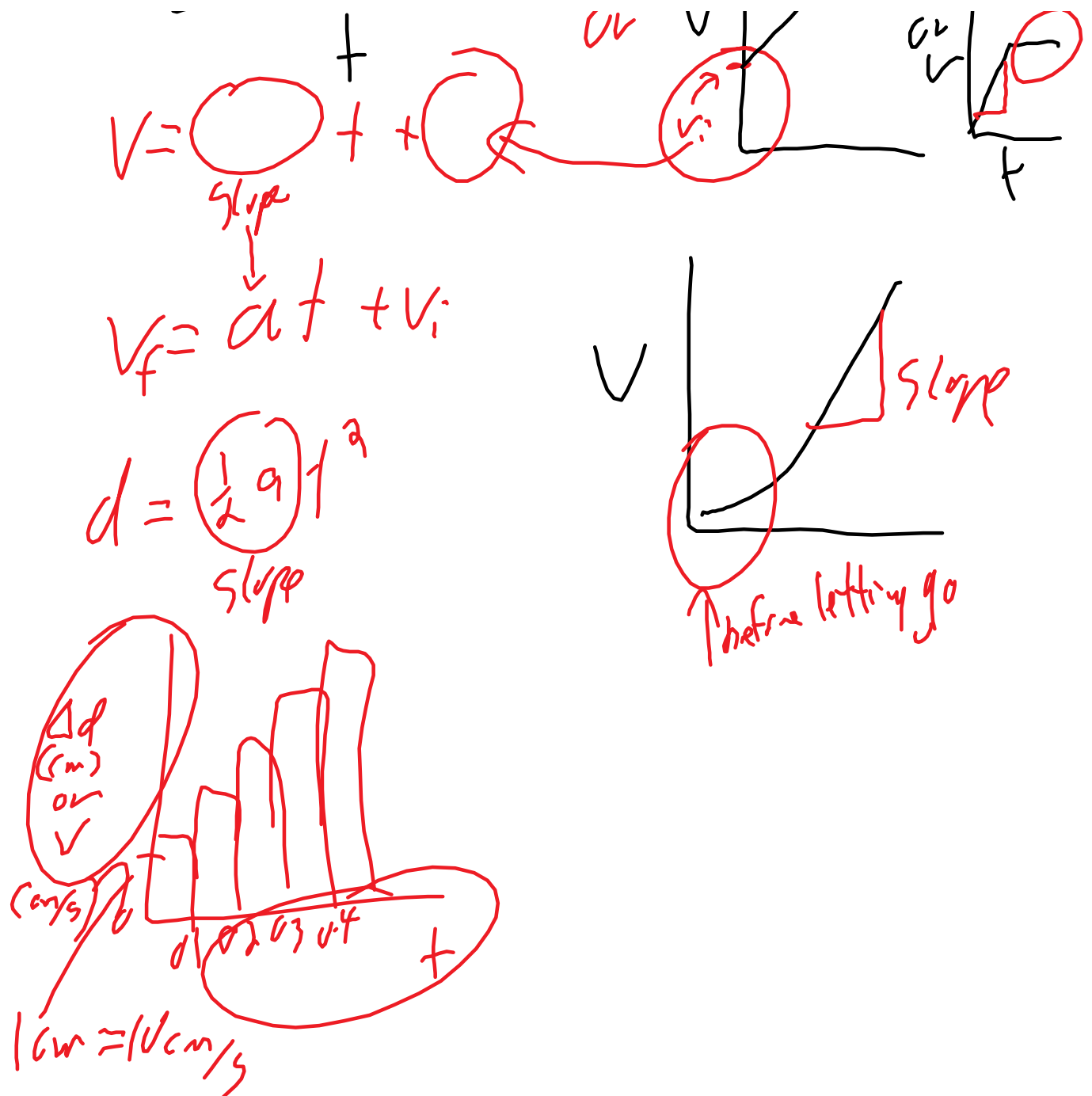


slope

$$d = \frac{a}{2} t^2$$

2 sig figs





Assignment:

Finish lab

purpose:

Hypothesis: 4 parts

procedure: don't copy - just write "refer to lab manual p22"

Observations

2 tables with labels, units, proper sig figs

Analysis: 4 graphs

d-t, d-t² with slope and equation and units of slope

v-t with slope and equation and units of slope

ticker tape graph with labeled axes

answer the questions in the lab manual

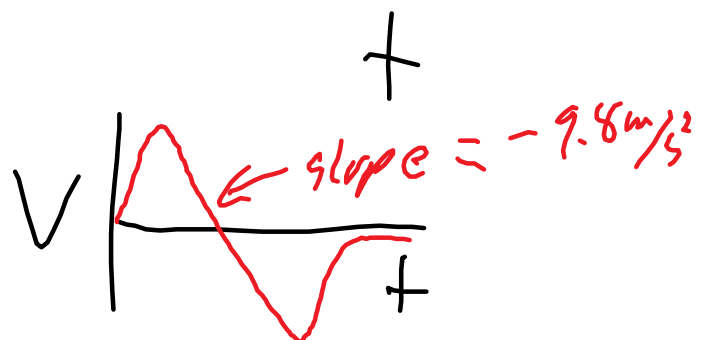
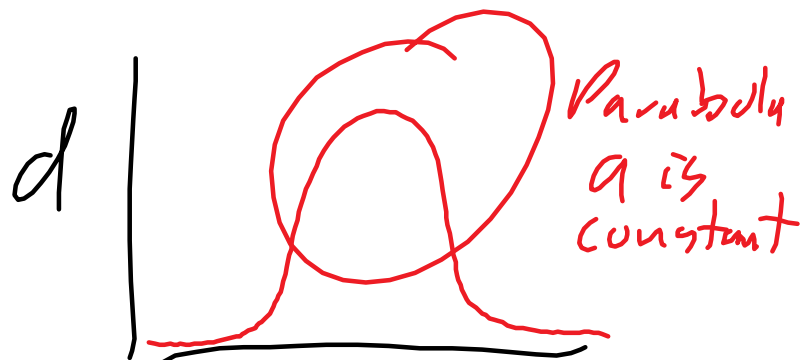
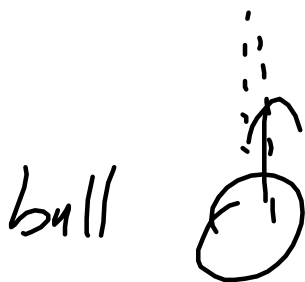
conclusion - 1 for each hypothesis

sources of uncertainty

p69 CR 1.1-1.4 p74-75 Q17-24 quiz prep

Demo:

Throw a basketball straight up above a motion sensor. Predict the shape of the d-t, v-t a-t graphs.



How would the graphs change if you threw a balloon instead of a basketball?